CHOICE

VOL. III NO. 1

FEBRUARY
1962

SUNTAN LOTIONS

KEEPING WARM IN WINTER

DYNAMO TABLETS

DEODORANTS AND ANTIPERSPIRANTS

CHILDREN'S SCHOOL SHOE TEST

The Journal of the Australasian Consumers' Association Ltd

Registered at the G.P.O. Sydney for transmission by post as a periodical

GENERAL NOTICES

The Australasian Consumers' Association Ltd is a wholly independent, non-political non-profit-making organization whose principal object is to help its members to get the best possible value for their money. It does this by testing consumer goods and services, and publishes the results in *Choice*, which is available only to members.

The Australasian Consumers' Association wishes to state that wherever there is reference in this journal to tests or comments on any article or articles, these references relate only to the article or articles examined by the Association and *not* to any other article of the same or similar description. Nor does the Association necessarily test every article available in any particular class of goods.

The prices given for the goods described in *Choice* are the prices paid by the Association for the goods at the time of purchase. The prices of goods of such description may vary from place to place in Australia, and from time to time.

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EDITORIAL

ACA IS UNDER WAY

With the publication of this issue *Choice* enters its third volume and ACA the third year of its existence. Last year, which was still quite a difficult period for the Association, was also a year of great progress. It ended with our membership totalling just over 20,000. We were also able to increase the number of issues of *Choice*, so that this year we will be publishing six. In the short space of two years, ACA has made Australia the third nation in Consumer Organizations, since our membership is exceeded only in the USA and Great Britain.

January is a problem month for ACA, since we are never quite sure how the membership renewals will come in and how we should plan our budget. This January alone, we enrolled 15,000 NEW MEMBERS! About 7000 members have renewed, and the Office has been inundated with applications, which is just what we want. **We urge you to renew now,** if you have not done so already. **Don't delay.** We need to plan ahead to give members the best possible service in 1962.

We shall follow the same plan as last year by posting this copy of *Choice* to all members, new and old, a total of some 35,000 copies. No further copies will be sent to those who do not renew by April. We are not posting out receipts to members who renew their subscriptions, but *Choice* will come throughout the year. Should you be uncertain whether we have received your remittance, your bank account will readily reveal the date your cheque was presented for payment. We have decided not to send out reminder letters this year, as it would cost some hundreds of pounds which would be far better spent on testing.

We regret to announce that our Manager/Secretary, Mr David Moore, resigned at the end of last year to take up another appointment. He goes with our sincere thanks for working very hard for ACA in 1961 with a small office

staff and our snowballing growth. He gave us far more of his time than we had a right to expect, and we all wish him success in the future. We are at present seeking a successor to Mr Moore, but as the office is now well established, there will be no reduction in our services to members in the interim.

What can probably be considered the most significant step for ACA in 1961 was the holding of the first Interstate Conference in November. Because ACA depends on membership, and membership only, for its continued existence, it is absolutely vital that there should be active state branches throughout Australia, fostering membership, assisting in the test programme and helping in the surveying and purchasing of articles for tests. The first interstate conference was of enormous value because it turned people who had hitherto been simply signatories to letters into known personalities. Problems were aired and discussed, and plans made for the future which will ensure that ACA really becomes a national organization.

This is what we want to see, because only by being an Association with nationwide support can ACA be really effective. The larger the membership the bigger the budget and the wider the range of articles that can be tested. So once again we urge all our members to continue to pass on the good word and interest their friends in joining ACA.

By joining ACA, you are not just subscribing to a magazine which has some interesting articles. You are strengthening an organization which represents the most disorganized of all groups of people with a common interest—the Consumers. As consumers, our interest is to obtain reliable information on goods or services so that we can get the best value for our money.

ONLY A STRONG ACA CAN GIVE US THIS.

You will notice that *Choice* has now been registered with the G.P.O. Sydney for transmission as a periodical, so that advantage can be taken of the very much lower rate of postage. This represents quite a substantial sum that can be used for services to our members.

BUY IT IN BULK

Many commodities, including some in everyday use, can be purchased much more economically in bulk. Some obvious examples are: Detergents, ink, envelopes, mineral turpentine, methylated spirit and casein powder glues.

ACA proposes to make an Australia-wide survey of these in the near future, and would welcome information from readers concerning any commodities which can be purchased advantageously in this way. Samples are not required at this stage, only general information.

Please mark your envelopes clearly:

"BULK PURCHASING"

ASSISTANCE TO PURCHASING PANEL
Volunteers Required

ACA is setting up a widespread organisation for market surveying and purchasing articles for testing. Any members who are willing to spend some of their spare time acting as surveyors and purchasers for ACA are asked to volunteer for the job. ACA will provide the detailed purchasing instructions and the cost of the goods. Out-of-pocket expenses will be refunded.

Members who are willing to act as surveyors and/or purchasing agents are asked to write, giving name, address and occupation of self and spouse to the Head Office, *OR* to their State or Territorial Branch Committee, where one exists.

Please mark the envelope clearly:

"PURCHASING PANEL"

CAR TEST SUPPLEMENTS

ACA is pleased to announce that, by arrangement with Consumers' Association Ltd., of Great Britain, members may now obtain reprints of the quarterly CAR TEST SUPPLEMENTS to "Which". Further details appear on the last page of this issue. These supplements are being made available to members of ACA for an additional fee of 15/- a year, to cover the cost of production and distribution.

The membership application and renewal forms on page twenty-nine have been amended to include the supplements. For members who have already paid their 1962 subscriptions there is a special form covering the supplements only.

"HIGH-PROTEIN" FOODS

Two classes of nutrients are getting special attention by food promoters these days: vitamin-mineral supplements, which may be criticized on the same counts as the vitamin pills in the preceding chapter, and protein, which crops up most often in the promotion of cereals, bread, and macaroni-type products.

In a recent study of breakfast cereals conducted by Consumers Union, some of the highest-priced brands found were the so-called high-protein cereals. Some of their claims are such as to cause pangs of jealousy in the hearts of the most uninhibited of the faddist nutrition lecturers. And so many products have taken up the fad that one trade paper, *Food Field Reporter*, refers to it as "the protein bandwagon" and a U.S. Food and Drug Administration official laments the "miserable protein chaos". Label statements range from General Mills' conservative "*Hi-Pro* gives you high quality protein—the booster breakfast for grown-ups" to Quaker Oats Company's flat statement that its new *Life* is "The Most Useful Protein Ever in a ready-to-eat cereal . . . " The peak of them all, however, would seem to be *Kellogg's Concentrate*, which bills itself as the "greatest concentrate of nutrients—vitamins, protein, and minerals—ever offered in a single all-purpose food, . . . especially helpful to weight-watchers, children and adolescents with finicky appetites, women during pregnancy, and to all people requiring a high protein diet." As you read down the blurb to the words "recommended daily usage", they seem to take on the significance of "recommended daily dosage." (There is, of course, no valid basis for calling any single foodstuff an all-purpose food. Good nutrition calls for variety and diversity in the diet, to which each food contributes needed elements.) Similar, if generally less flamboyant, claims often are made for special formula breads and sometimes for other foods—though rarely for those which truly are good sources of protein.

Strictly speaking, the word protein should not be used in the singular. There are many, many proteins, each a different combination of simpler substances called amino acids—generally twelve to twenty or so different amino acids to each protein. When you eat a bite of steak, cheese, or other protein food, your digestive tract breaks down all of the proteins found in these foods into their various amino acids. The acids are then distributed around to the body tissues and reassembled there into whatever specific proteins are required at the moment. Any amino acids not used right then for protein-building are broken down by the liver and other tissues and used as fuel for heat or energy. Since carbohydrate foods—the primary energy foods—generally are less expensive than protein foods, it does not make sense nutritionally or economically to eat great excesses of protein.

Most of the food we eat has more than one type of protein, but the distribution of different types varies widely from food to food. The concept of quality in proteins arises from this fact, and also from a limitation of the human body. For the body to build a protein, all the required amino acids for it must be available at the same time. If even one acid is missing, the

body will not build that protein, and will allow the other amino acids to be converted into energy and fat, rather than storing them for future tissue synthesis. Many amino acids can be manufactured within the body, but there are at least eight and possibly nine or ten amino acids which can't be made in the body and therefore must be present in the diet. They are generally called the essential amino acids. And for the most efficient utilization of *all* the protein eaten, they should be present in about the ratio of their need in the body. The essential amino acids are found most abundantly in protein foods from animal sources—meat, fish, milk, eggs. Protein-rich vegetables (primarily grain products and legumes, such as peas, beans, and peanuts) generally are deficient in some of the essential constituents, and grains are less deficient than the legumes.

If we lived on but one food at a time, much of the protein from vegetable sources would be converted into energy. Practically all Americans, however, eat a variety of protein foods, the amino acids of which complement each other. A simple illustration will show how much difference this makes. Eight slices of ordinary bread have about sixteen grams of protein. If this bread is eaten alone, the part of the protein that can be utilized for tissue building is equivalent to what one would get from seven-tenths of a medium size egg, six-tenths of an ounce of lean beef, or half a cup of milk. By contrast, when eaten with a varied diet rich in animal foods, the same eight slices of bread provide the protein equivalent of two and six-tenths medium-size eggs, two and three-tenths ounces of lean beef, or one and nine-tenths cups of milk. Nutrition authorities point out that a varied diet with at least one-third of the protein from animal sources should provide protein of adequate quality; in the United States, two-thirds of all protein consumed is of animal origin. For the great bulk of Americans, in short, the quality of the protein in any one food is of no more than academic interest.

So far as quantity is concerned, also, few Americans will find their protein nutrition improved significantly by the use of high-protein breads and cereals. Such foods are primarily a source of carbohydrates and not a source to be depended upon for protein. A few years ago the FDA made an analysis of seventeen special breads promoted for their protein content and found wide variation among them in both protein content and protein quality. The protein content of these special breads ranged from one and three-tenths to one and nine-tenths times that of a standard white bread, and the quality of the protein ranged from considerably below to twice as high as that of the protein in the standard loaf. In Canada, where the Food and Drug Directorate has more precise control over food labelling and advertising, none of these special breads would have been allowed to make anything special of itself as a source of protein, and eight of the seventeen would have been classed as poor sources.

In point of fact, Americans have no real need to rely on cereals for protein; other and better sources are plentiful. A superabundance of protein foods (meat, fish, fowl, eggs, milk, cheese, legumes) characterizes our national food supply. This is not to say that each and every individual has adequate protein in his particular diet. But it is to say that he *could* have, if he were adequately informed and used his knowledge well. Unquestionably, an enrichment of reliable nutritional knowledge for consumers would make much more sense than protein enrichment of processed cereals or of breads, especially since such processing manipulations carry so high a price tag. That the protein mania already may have gone too far has been suggested by an eminent pediatrician, Dr. L. Emmett Holt, Jr., of the New York University School of Medicine, who wrote in *Post-graduate Medicine*:

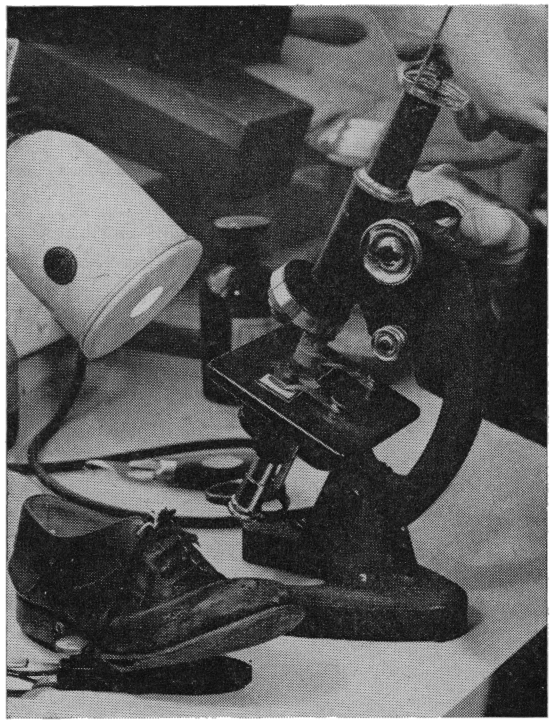
"In light of our present uncertainties and the suggestive evidence that we may have passed the optimum protein intake for meeting some of our important stresses, are we justified in continuing to enrich our diets with protein? The pressures to do so are great. The cereal industry has become protein-conscious and has begun to reinforce its products with protein and amino acids. Protein content and protein quality have become sales gimmicks in the food industry. As doctors we want to play it safe and to subject our patients to the least possible risk. But is it playing it safe to go along with this trend, or is it time we called a halt until we can evaluate what our present diets are doing before we go further along the road of protein 'enrichment'?"

From "The Medicine Show",
published by Consumer Reports, U.S.A., 1961

CHILDREN'S SCHOOL SHOES

PART ONE

Results of the Pilot Test



As we promised members in the December issue of *Choice* we give below our report on Children's School Shoes. This is a pilot test, which ACA introduced to see whether it could design a comprehensive assessment of all the children's school shoes available in Australia. Even so, it turned out to be the most elaborate, and the most extensive test which the Association has undertaken.

So much detailed information was collected in the test, much of which is not susceptible to statistical analysis, that it has proved impossible to include it all in one article for *Choice*. What has been attempted, therefore, is to give in this issue a summary of the results obtained and also hints on the purchase and evaluation of children's school shoes.

In a subsequent issue of *Choice*, ACA will report on the very thorough tests which were made on all the individual shoes from the nine brands of children's school shoes which were selected for the pilot test. This part of the report will include an evaluation of the shoes by the various brands and the relative merits of their component materials and methods of construction, particularly in so far as these affect their suitability as children's school shoes.

Full details of the basis of this Pilot Test were given in *Choice* for December, 1961 (Vol. II, No. 5). A summary of the terms of the test is as follows:

1. 90 children were selected—45 boys and 45 girls between the ages of 5 and 12 years.
2. Shoes were to be worn "in the normal way" during the winter term, May to August, 1961.
3. If the shoes became unwearable, they were not to be repaired, but put aside until the time came for them to be sent to ACA.
4. The test was limited to conventional shoes with leather uppers.

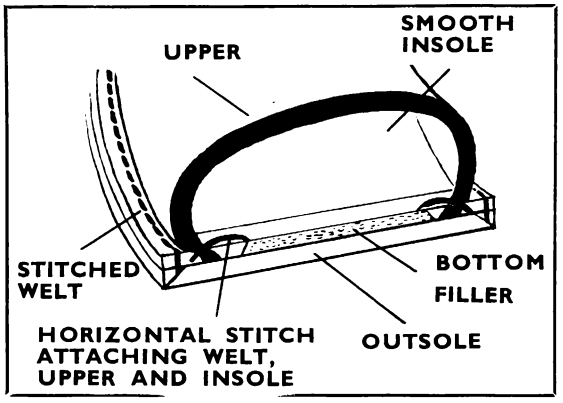
SHOE CONSTRUCTION

Before going on to a detailed analysis of the test, the following notes on the construction of shoes may help to clarify the terms used.

There are basically four types of construction for conventional shoes of the types used for the test.

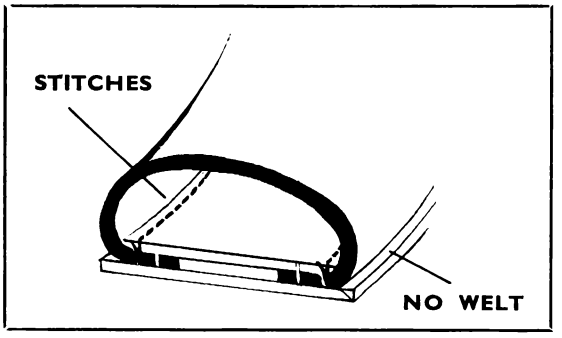
These are:

1. *Welted* (Usually called Goodyear Welts after the name of the inventor of the special stitching machine used for making the shoe). This is the most expensive type to manufacture of the various constructions tested.



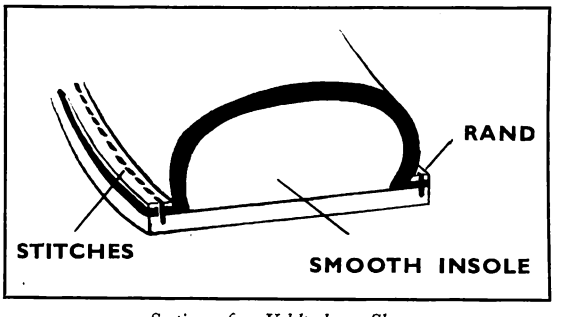
Section of a Welted Shoe

2. *Machine Sewn Faire Stitch.* This is a cheaper method of manufacture and is less conducive to retaining shape and appearance, especially when not used with first class component materials.



Section of a Machine Sewn Shoe

3. *Veldtschoen* or *Stitchdown.* The same remarks apply as to Welted. When used with first-class materials, these are almost as good as welted shoes. This is a flexible construction particularly suitable for the younger age group.



Section of a Veldtschoen Shoe

4. *Direct Moulded or Vulcanized.* In this type the soles are formed by heat moulding and are attached to the leather uppers by vulcanization in one operation. The moulds for the production of this type of shoe are so costly that the number of sizes which can be economically produced is limited.

What parents want in their children's school shoes

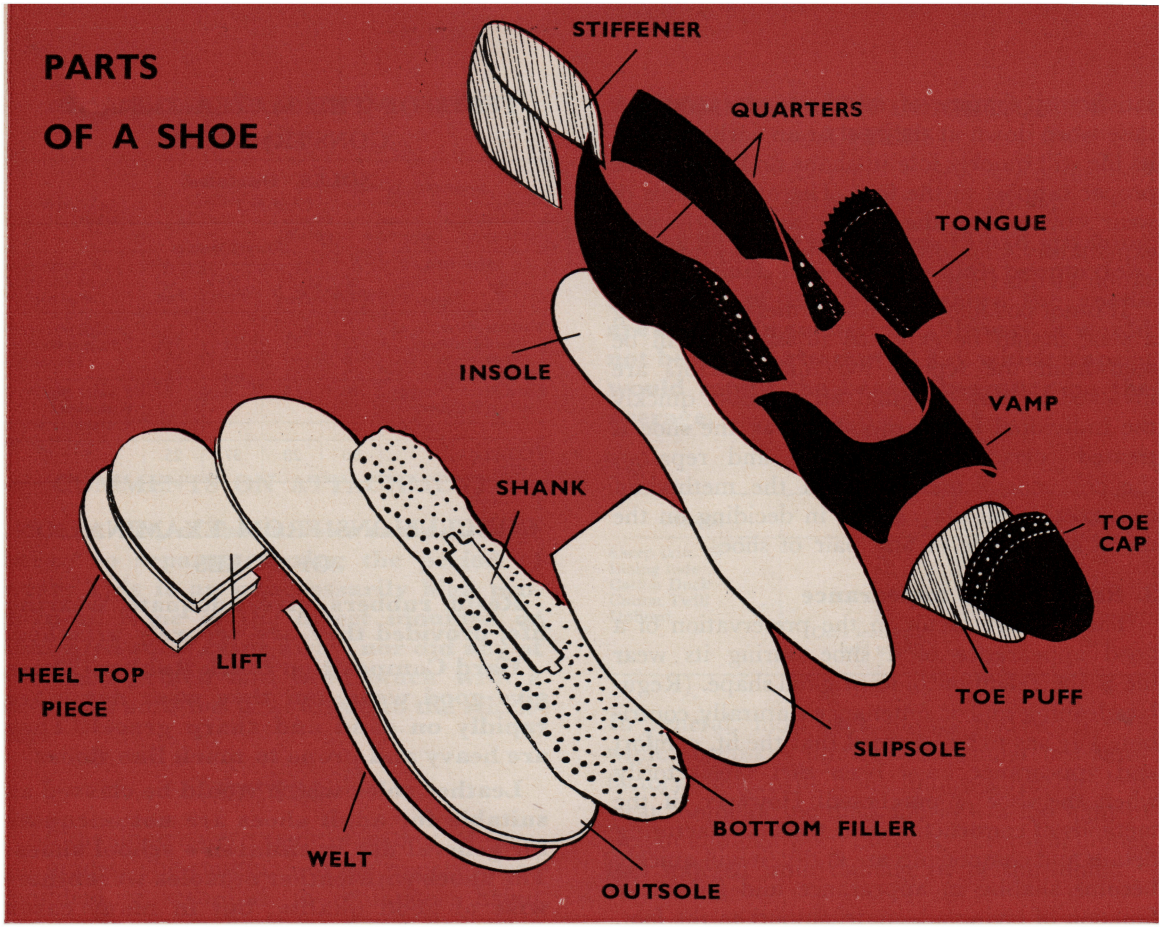
The parents taking part in the test were asked what they expected from their children's school shoes in terms of general service. In the first place the answers revealed that parents wanted the shoes to have the following qualities in order of preference: (1) Good fit; (2) Reasonable wear; (3) Retention of appearance during wear; (4) Economical price.

1. Fit

Fit being the primary requirement, what does good fitting imply? Firstly that the shoe should be anatomically correct, allowing full freedom of movement of all the toes when the foot is in action. The theory that a child's shoe should be purchased large enough to allow the foot to grow is wrong—such a shoe can be as harmful to the foot as a shoe that is too small. The feet of different children grow at different rates, so that it is advisable to check the shoes for size every two months before deciding to have them repaired.

A good way to check the fit is as follows: place the foot on a piece of cardboard or stiff paper and trace an outline of the toes and heel when the weight of the body is on the foot. From this draft, cut a strip about half an inch wide from the back of the heel to the tip of the longest toe. Insert one end of the strip into the shoe and push it right up to the toe. If the other end is less than 3/8 of an inch from the heel, the foot is getting too large for the shoe. It is not possible to fit the normal variety of foot widths with the restricted range of half sizes in only one width. To overcome this, shoes of varying width, but of the same length have been introduced fairly recently by the majority of reputable manufacturers. These are known as fractional fittings. (It was apparent from the answers to the questionnaire that great difficulty was experienced in obtaining a satisfactory fit when a single fitting only was available.)

Once a satisfactory fit, so far as length and breadth are concerned, has been achieved, it is essential that the shoe should be capable of holding the foot in action in position from the



heel to the ball of the foot (at the rear joint of big toe), thus preventing the foot from sliding forward when walking. To do this, it is essential that a number of the hidden components of the shoe be of good quality, correctly positioned and held there by good manufacturing processes. The most important of these components are the stiffener and the shank (*see diagram*). The stiffener should be sufficiently strong to prevent running over at the back of the heel and resilient enough to prevent discomfort. It should not reach a point higher than half an inch from the top of the back seam of the shoe if maximum comfort in wear is to be obtained.

The shank supports the longitudinal arch of the foot, and, although for this purpose it needs to be strong, it should also be sufficiently flexible to allow freedom of action of the muscles in walking. A shank of spring steel is probably one of the best types for use in children's school shoes. The shank should extend from the heel to the tread line (an imaginary line running through the rear joints of the big and little toes).

2. Reasonable wear

This was the second requirement, and it has appeared fairly clearly on the test that the standard of wear varied with different parts of the shoe. The majority of *soles* were made of materials which, *provided they were properly attached to the rest of the shoe*, would last as long as required before the shoe was outgrown. From point of view of utility, *heels* were the least

This is our testing department

satisfactory feature of all the shoes tested. A shoe worn down at the heel at an early stage of its life will quickly lose its shape and fail to give proper support to the foot. The other points of wear covered in the report are mostly self-explanatory and do not require any amplification at this stage.

It is not possible to give any rules on how long a shoe should be expected to last. As will be seen from the report, too many factors are involved in this—original fitting, how quickly the individual foot grows, the way the shoe is treated (personal maintenance and repairs), the component materials and the method of construction all play a part in deciding on the useful service-life of any pair of shoes.

3. Retention of appearance

The primary factor in the preservation of a good appearance of a shoe during its wear life is the retention of its original shape. (Regular cleaning and maintenance naturally contribute.) It has to be assumed that the fit, comfort and appearance have been met satisfactorily when the shoe is purchased. However, if the methods of construction and the manufacturing details and components are faulty, it will quickly become shabby in appearance and fail in its function of giving adequate support to the foot. Examples of this appear in the body of the report—for example, poor quality stiffeners and toe puffs totally collapsed, giving the upper of the shoe a worn and shabby appearance, even where there was considerable wearing life left in the sole.

4. Price

By and large the quality of the shoes varied according to the price. Some unsatisfactory practices for the sake of cheapness appeared even in the best brands. Particular examples will appear in the report to be published later.

ACA's Tests

When the users had returned the shoes to ACA, they were sent to an independent laboratory who checked every pair for the following points:

1. General examination of every component part.
2. Manufacturing method.
3. Strength test of stitching.
4. Tensile strengths of materials.

The results appear below.

TESTS OF THE MATERIALS AND CONSTRUCTION

SOLES (Outsoles)

TABLE I

Materials Used	*No. of Pairs*	*Wearing Quality*			*Remarks*
		A Good	*B Fair*	*C Poor*	
Various Brands of Resin Rubbers ..	73	23	34	16	3 pairs were A+
Leather	5	—	—	5	
Microcell rubber ..	2	1	—	1	
Hard Black Composition Rubber ..	10	4	3	3	2 pairs A+ 6 moulded 4 machine sewn
TOTAL	90	28	37	25	

CONCLUSIONS FROM EXAMINATION OF SOLES

Resin rubbers give adequate wearing life, provided they are securely attached.

Hard Composition Black Rubber. These give good wear, but they wear out more rapidly on sand and sharp gravel. They are heavy and prone to mark lino floors.

Leather soles which would be classed as suitable for adult shoes are not adequate for general use in children's school shoes. The shoes with leather outsoles were otherwise of good quality, but in many cases had worn through to the insole in a few weeks, particularly when the wearer lived in the outer suburbs. Only specially impregnated waterproof leather would be adequate for use in children's school shoes.

HEELS (Top Pieces)

TABLE II

Materials Used	*No. of Pairs*	*Wearing Quality*			*Remarks*
		A	*B*	*C*	
Resin Rubber ..	63	10	25	28	
CompositionRubber	10	3	3	4	Same material as soles.
Leather ..	17	—	—	17	Used on 12 pairs with rubber soles.
TOTAL	90	13	28	49	

CONCLUSIONS FROM EXAMINATION OF HEELS

No material used for the heel top-pieces of the shoes can be considered really satisfactory. A high quality material must be used for heel pieces—but they must be replaced as soon as they wear down to the lift (under-piece of heel).

ATTACHMENT OF SOLES TO UPPERS

TABLE III

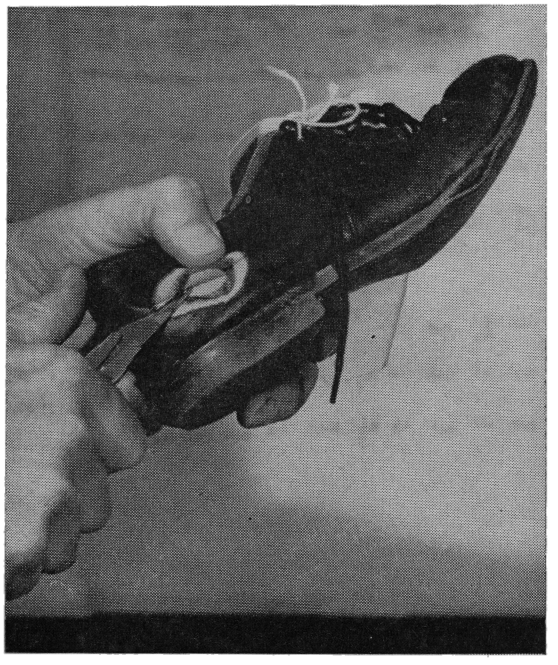
Method of Attachment	*Number of Pairs*	*Condition of Attachment*		
		Complete Adhesion	*Partial Separation*	*Major Separation*
Welted	34	17	5	12
Machine Sewn ..	8	2	2	4
Veldtschoen (Stitchdowns) ..	41	29	3	9
Direct Moulded (Vulcanized) ..	6	6	—	—
Cemented ..	1	1	—	—
TOTAL	90	55	10	25

COMMENTS ON ATTACHMENT

About 40% of the outsoles came away or began to separate during the period of wear. This is an unnecessarily high proportion. None of the direct moulded or cemented soles came away, nor did any of the soles which had been stuck with a neoprene solution in addition to the stitching.

UPPERS

All the uppers were made of leather, of varying grades. The condition of the uppers varied considerably according to conditions, habits and sex of wearer. Boys' shoes were noticeably more damaged by scuffing than girls'.



COMMENTS ON CONDITION OF UPPERS

Good	Average	Severely damaged
15 pairs	49 pairs	26 pairs

Of the 90 pairs examined, 15 had stitching faults, which is a notably high proportion. In a test of this type, where the goods are treated in such a variable way, it would not be fair to attempt to say which uppers would retain the best appearance on the average.

LININGS

TABLE IV

Material	*Back Lining*	*Front Lining*
Sheep skin	36	11
Lining hide	42	
Cotton Duck ..		22
Cotton Twill ..		45
Unlined	12 (Only leather board heel grips.)	12

In general, hide back linings had worn well while sheepskin linings were much less satisfactory. The twill front linings gave the best wear. Some of the duck fabric was too light in weight and had worn through. Sheepskin linings had suffered from damage by perspiration.

SOCKS

40 pairs had seat socks (heels only); 11 pairs had ½ length socks; 39 pairs had full length socks.

CONDITION OF SOCKS AFTER WEAR TRIALS

Leather Socks: 41 pairs. Generally fair to good, with hide leathers showing least wear or staining.

Lacquered Paper Socks: 30 pairs. Fair to poor. In many places the material had worn through into holes. Results suggest this material is quite unsuitable for either seat or full socks in children's school shoes.

P.V.C. Coated Paper. 18 pairs. Good in all cases. Because of the non-absorbent properties of this material it is advisable to use it only as a seat sock.

ADHESION OF SOCKS

In 7 pairs, one of the seat socks was missing, and in many cases the socks were loose, curled up, folded over or out of position. The use of

simple starch paste by some manufacturers is a source of trouble. Starch paste dissolves in water, and even perspiration can cause the sock to come loose, which is a cause of discomfort to the wearer. A stronger, waterproof adhesive is required, *e.g.* latex based, with the type of sock being used. The high proportion of socks coming unstuck could easily be remedied.

FIT

The fit of the shoes on the wearer was assessed by a number of indications which revealed to the experienced observer whether the shoes at the *end* of the trial period were a reasonably good fit.

These indications include the position of toe impressions, upper creases—wear points both inside and outside the shoe, curvature of sole, etc.

COMMENTS ON FIT

54 pairs were assessed as still a good or fairly good fit after the period of wear.
22 pairs were definitely too short at the end of the trial period.
6 pairs were slightly too short.
5 pairs were too broad or large in girth, some only slightly.
1 pair was too short and too narrow.
1 pair was too long and too wide.

The proportion which seemed to be a reasonable fit after the trial was quite high. The major fault was short fitting. In some cases a period of rapid growth may have occurred since the time of purchase.

MAINTENANCE

24 pairs were assessed as good or A Grade, in which a reasonable amount of regular cleaning and polishing had been carried out.
42 pairs were assessed as fair, or B Grade, in which the uppers were scuffed, damaged or water-stained but fairly clean with some evidence of polish application on a few occasions.
21 pairs were assessed as poor, or C Grade condition, with no indication of cleaning and polishing. They showed various forms of abuse such as mud inside and outside, sand and considerable salt staining, as well as broken backs due to failure to unlace shoes.

GENERAL APPEARANCE AND SHAPE

25 pairs were assessed as Grade A, indicating good appearance and shape, capable of further use in reasonable comfort.
44 pairs were fairly good, or Grade B, shape and appearance.
21 pairs were Grade C, or poor shape and appearance. In many cases this was due to run-down heels causing distortion. If these had been repaired, several would probably have been Grade B. For this test, however, it was specifically requested that no repairs be done.

Note: In this last assessment are naturally combined some of the features of other factors such as maintenance, fit, condition of uppers and other materials.

Value For Money

Getting the best value for money with children's school shoes is not just a question of selecting the particular brand that comes within the range of quality and price desired. Apart from minor defects, which could easily be remedied, most manufacturers produce a shoe that is reasonably good value.

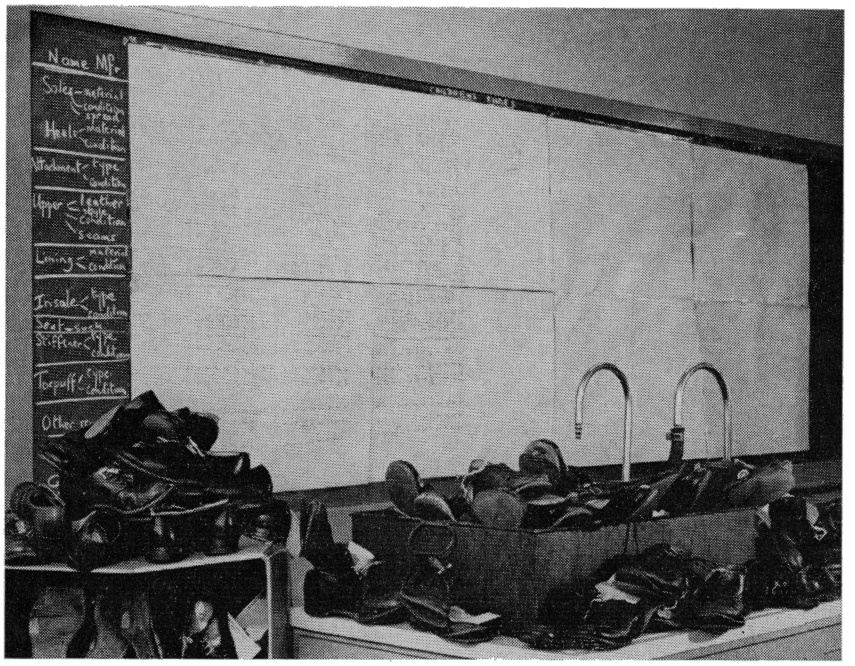
If you buy one of the more expensive brands of children's school shoes, have it correctly fitted and see that it gets proper personal maintenance and repair—particularly of the heels—then the shoe is likely to last beyond the time when it is outgrown and still have an acceptable appearance.

On the other hand, the methods of construction and materials used in the cheaper brands do not allow shoes to retain their shape and appearance as long as others, although they may still be serviceable.

By far the most important factor in buying a child's school shoe is the necessity of obtaining a correct fit. Here are a few simple rules to follow:

Check that the length, width and height at back are all correct. If the brand you had asked for has not the correct fitting, get another make. Always have both feet measured. When, as sometimes happens, one foot is bigger than the other, buy to fit the longer foot, unless the difference is so great as to warrant a visit to a specialist.

Go to a shop which has a trained shoe fitter—do not hesitate to ask for one; the more inquiries that are made the more likely the shopkeepers



Down on their uppers?

are to take notice of the need. Try to shop at a time when the fitter can give you full attention. Don't shop for children's school shoes in a hurry!

Manufacturers' sizes are variable. A measuring gauge gives an indication of shoe size, but cannot replace experienced selection by hand fitting.

When you have bought the shoes, see that they get good home maintenance and repair. Regular polishing does help preserve and waterproof leather. **DO NOT** let the heels run down. A lop-sided heel shortens the life of the shoe by weakening the whole structure and is also liable to distort the foot.

In the younger age-groups, with their rapid growth, great care must be taken to ensure that they get new shoes as soon as their old ones are too small. ACA's check on page 8 will help to find this out.

Summing Up

ACA recommends that you pay the greatest attention to correct fitting and maintenance. Most shoes that have been correctly fitted and looked after will last for as long as they are a good fit.

LETTER TO THE EDITOR

Dear Sir,

I feel I must write and say how much I appreciate what ACA is doing and tell you how I save money as a result of my membership.

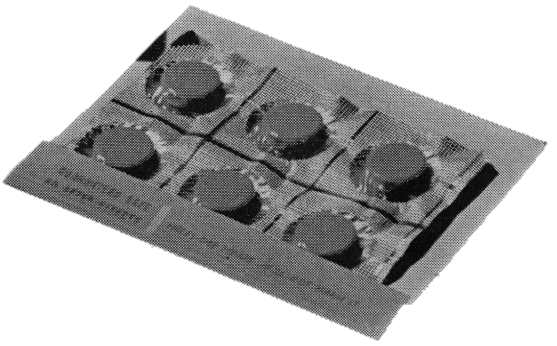
My family of four consumes quite regularly a steady amount of instant coffee. I had been buying at least one 2 oz. tin of NESCAFE a week until I read *Choice* last August and switched over to FLORIDA CLUB which is nearly half the price and just as enjoyable. I usually buy a stock of this when I see it in Woolworths and if I continue to buy this in 1962 I estimate that I shall save about £5 or more of my housekeeping money. So I am making a good profit even after paying my ACA subs. and sending out a couple of Gift Subscriptions.

Please keep up the good work and show us housewives which goods to buy to save the most money.

MRS. D.A.E., *Stanmore, N.S.W.*

A CUP OF TEA IN TABLET FORM?

DYNAMO TABLETS



"Instant Energy Stay-Alert Tablets"

Widely on sale in all States except Victoria these tablets offer, according to the folder, in-increased alertness, mental activity, initiative and also counteract sleepiness, fatigue, tension and depression.

ACA bought several packs of these and submitted them for analysis and expert comment. The manufacturers state that they contain

100 mg Pure Caffeine
7½ mg Vitamin B
Glucose

ACA analysed 20 tablets from various different packets and found a mean value of 111.4 mg of caffeine and tested for and found Vitamin B_1 to be present although the actual amount was not measured.

WHAT "DYNAMO" TABLETS WILL DO

"Dynamo Tablets contain a harmless stimulant" says the packet. Yes, they contain caffeine in just about the same amount as is found in a cup of tea or coffee. They are harmless in moderate doses, it is true, and no human fatalities with caffeine have been recorded. Unpleasant effects such as insomnia, restlessness and excitement may be produced, however, with doses of about 1 gram of caffeine—about 10 Dynamo tablets—so these tablets should not be regarded as entirely safe in any quantity. The same things will happen of course should you drink seven or eight cups of very strong tea or coffee.

ACA however takes some exception to the prominent use of the word "instant" since caffeine has to be absorbed before it can take effect. The time this takes is least with solutions like tea or coffee and considerably longer with caffeine in a compressed tablet. It is certainly not instantaneous!

Glucose

Inside the packet the statement is made that the tablets contain "medicinal glucose for energy". When a tablet is compressed, various materials such as sugars or starch have to be added to the drug to bind the particles together. If only glucose were used in addition to caffeine and Vitamin B_1 in these tablets, the total amount of it in each would be about half a gram. The energy this can give the body is quite insignificant—an ordinary lump of sugar (about 5 grams of sucrose) will give you far more.

Vitamin B_1

Vitamin B_1, also known as thiamine, is essential to the body, and if there is a deficiency of it, then muscular weakness and staggering can result. Vitamin B_1 occurs in the outer coats of grains, nuts, wholemeal flour, lean meat and especially in yeast and yeast extracts. The daily requirement is about 1 milligram for a man, 2 mg at the most. In the DYNAMO tablet the dose claimed by the makers of 7½ mg of Vitamin B_1 is quite excessive, although this is of no importance as overdosage of Vitamin B_1 of this order is quite safe. In a normal diet one would certainly expect to receive at least 2 mg of Vitamin B_1 every day, so this extra dose is unnecessary and a deficiency of Vitamin B_1 is rare in our way of life even without such an addition.

WHEN TO TAKE DYNAMO TABLETS

On the packet	Comments
"When feeling drowsy or listless"	Yes, they will brighten you up just as a cup of tea will.
"When faced with work you don't feel like doing"	There is no evidence that caffeine can give you will-power.

(continued opposite)

DOES THE CONSUMER HAVE ANY SAY?

METRECAL AND DIETROLE

As from 31st December, 1961 the N.S.W. Health Department implemented a ruling which prevents the sale of Metrecal and Dietrole powders in N.S.W. This means that our article in the last issue of *Choice* is not very relevant for N.S.W. members unless they wish to get these diets posted to them from other States.

The Health Department's reason for this ban is that Metrecal and Dietrole contain Saccharin or Calcium Cyclamate which are two artificial sweetening agents.

ACA feels that in these circumstances, its members in New South Wales should have an explanation regarding this ban, and the following factual information regarding the two artificial sweeteners referred to will be of interest.

Saccharin

Saccharin is an artificial sweetening agent which has been used for many years in special diets as a substitute for sugar. Its use is based on the fact that it has no food or fattening value.

Saccharin is recognised as being quite harmless and this is borne out by the fact that the New South Wales Health Department allows the use of Saccharin in the following:

Pickled Onions
Invalid Foods
Diabetic Jams
Flavoured Drinking Straws
Special Chocolate

Calcium Cyclamate

The Cyclamates are modern artificial sweetening agents which are recommended for use instead of Saccharin because they are less susceptible to loss of their sweetening power through heat. Saccharin is readily available in any quantity to purchasers through pharmacies and food stores.

Cyclamates, under various trade marks such as Sucaryl and Dulcin can be purchased from pharmacies and sale is not restricted.

Both Saccharin and Cyclamates are regularly used as substitutes for sugar by patients who are on diets or who seek to limit an undesirable increase in weight. It is quite reasonable to assert that by far the major portion of both the Saccharin and Cyclamates used in this country is taken by dieting patients.

The New South Wales Pure Food Act of 1908 contains a provision that synthetic sweetening may be used only in specified foods. Since Metrecal and Dietrole in powder form are officially regarded as foods and not medicines they fall within this provision. Liquid Metrecal is not affected.

New South Wales appears to be the only territory in the world which has such a regulation. Nobody seems to know why is was included in the Pure Food Act in 1908, but it is still there and fully effective.

DYNAMO TABLETS (continued)

"When driving on long trips".	Don't take too many, or you may get jittery—preferably stop for a cup of tea or coffee.
"To help you 'get going' in the morning".	A cup of tea will serve this purpose quite adequately.
"Before interviews, exams or speeches".	These tablets have no more virtue in such case than coffee or tea.

CONCLUSIONS

DYNAMO tablets—six tablets for 2s. 6d. or 24 for 8s. 6d.—are a very expensive preparation containing principally caffeine and have no advantages over the caffeine taken in a cup of tea or coffee.

The maker's recommended dose "Take one or two whenever necessary" could lead to overdosage.

THE BEST BUY

Make a fresh cup of tea, price approximately 1d.

CLOTHES PEGS

A Follow-up Report Based on Comments From Readers

As a result of the article in *Choice* for December 1962 (Vol. II No. 5), page 149, we have received very many suggestions and comments from members.

On reading these letters, one can put together a picture of a clothes-pegging housewife not dreamt of by the writers of the report, even in their wildest imagination. Pegs must work in freezing cold and tropic heat, on the softest flimsy fabric and the heaviest blanket, and yet be operated by the weak faltering finger pressure of a housewife with frozen hands or wet, slippery fingers, overloaded with huge armfuls of clothes.

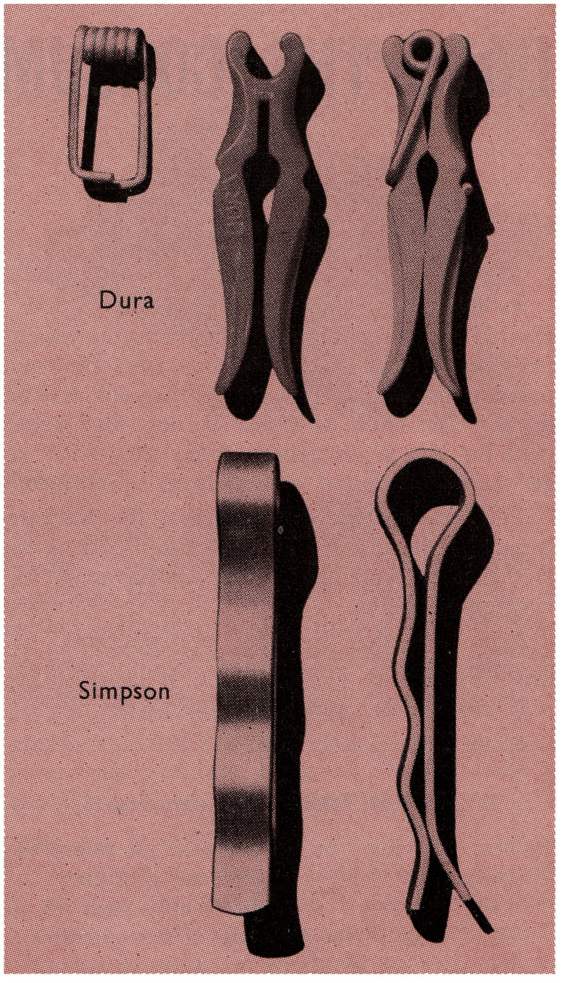
Many samples of pegs of various shapes, sizes and colours have also been sent in by members, and based on readers' comments and an inspection of these samples, we can offer the following additional suggestions:

1. The DURA (see illustration), a plastic peg with metal spring, which was favourably recommended in the article, now is manufactured with a one-piece plastic body of polyethylene, and at 1s. 10d. to 1s. 11d. per dozen can be regarded as a "good buy".

2. The "SIMPSON" peg (see illustration), made of one piece of anodised Duralumin, was not mentioned in the article; it is a most effective peg, and although expensive (approximately 4s. 0d. to 4s. 6d. per dozen), can be highly recommended. One fault is a slight tendency for the cut metal ends to snag very fine fabrics.

Many other individual types of pegs were received. These included home-made pegs of wire, pegs received by members as gifts and of uncertain origin and price, and pegs commercially available but which were missed out in ACA's original purchase.

Each peg incorporated features which appealed to the particular member. Similarly for some of the pegs mentioned in the article, each had its followers. This particularly applies to No. 5; for example, one member was quite lyrical about "dear old unbranded No. 5" and regarded it as *the* peg, with a number in use for eight years.



This lack of agreement as to the best items in a range of goods applies more generally to all products, and ACA always recommends to readers that above all they satisfy their own individual tastes before purchasing anything. Other factors often can affect your choice, such as whether a particular item is available in your locality.

Many thanks to all members who wrote in with suggestions and samples of pegs. This modest article has aroused such an interest that we contemplate much more detailed treatment of similar household items for future issues. Pegs may also be reappraised when some of the newer types brought to our notice are more generally available.

SUNBATHING and SUNTAN PREPARATIONS

"*Look how fit he is—he's as brown as a berry.*"

How often do we hear remarks like that, particularly on our sun-drenched Australian beaches, yet there is no foundation whatever for the idea that a suntan is a sign of health. We even feel ashamed, too, when we unveil a marble torso for the first swim of the season and are often so determined to acquire a fashionable bronze that many of us overdo the first sunbath and suffer real pain for days afterwards.

Suntan is really a defence reaction of the body for its protection against the harmful effects of exposure to the sun.

Good and Bad Effects

Apart from the attractive appearance of a nicely tanned skin, there are really no great benefits to be obtained from sunbathing. It is certainly a pleasant sensation to feel the fresh air and warmth on the skin and the ultra-violet rays in sunlight which stimulate the formation of vitamin D in the skin. We are not, however, likely to lack this vitamin in our diet here in Australia and medically it is essential only for active, growing youngsters.

Sunburn and suntanning are both produced by ultra-violet rays in the light and, of course, these are invisible so that we cannot judge from the brightness of the sun how much ultra-violet is present. These ultra-violet rays are easily cut out of sunlight by a sooty atmosphere, by window glass and even by our atmosphere itself. This means that at high altitudes there is more ultra-violet present in the light and there is also more in the clean atmosphere of holiday

LETTER FROM MANUFACTURER OF SIMPSON PEG

". . . The story of these clothes pegs is rather an interesting commentary on the so-called 'better mouse trap' theory. Unfortunately the price of the raw material is so great, and the amount of hand labour in racking the pegs for anodising is also considerable, that, in spite of the fabrication being done automatically, the cost of the pegs has always been many times that of the wooden competition. This has meant that practically nothing could be allowed for advertising and consequently sales have always been very small. Generally it seems to be difficult to interest retailers in a product, unless they can be assured that their own efforts will be backed by extensive advertising by the manufacturer . . .

With best wishes for your continued success."

SIMPSON & SON LTD,
Adelaide, S.A.

resorts than is formed in bright sunlight in big cities. Ultra-violet light is also absorbed by many surfaces on which it falls but it is reflected back from sea, snow or water so that the risk of sunburn is greater at the seaside or on snowfields than elsewhere.

Too much exposure to ultra-violet rays can have harmful effects and can cause damage to the skin and blood vessels just beneath it as well as producing conditions which may lead to skin cancer.

Before these effects become serious the skin becomes thickened and dry and takes on a leathery appearance which most people would certainly not consider attractive so we are well advised to take our sunbathing in moderation.

Sunburn and Suntan

The ultra-violet rays which cause suntan also cause sunburn and there is very little difference between the two, in fact it is necessary to expose the skin until it just shows reddening, or erythema as the doctor calls it, in order to acquire a tan. It is a curious fact that the exposure needed to start off this reddening is just half the time required to develop painful sunburn. Sunburn is really just like any other form of burn in its early stages and therefore just as painful.

How long it will take to cause this reddening varies a great deal from one person to another. Fair people, particularly those with chestnut hair and blue eyes, burn much more readily than dark-haired, olive skinned types, and these fair folk are urged to take extra care in their sunbathing. It is a good idea, too, to commence in the early morning or late afternoon for a few minutes only. At these times of the day the ultra-violet rays are far less intense than at midday.

Suntan Preparations

There are three quite different types of preparations sold to help you get that bronzed body-beautiful.

1. Artificial Paints and Stains

These are often in the form of creams or lotions and they simply colour the skin quite artificially in the same way as ordinary make-up. It is true that they often contain oils which soothe or lubricate the skin and the colouring matter itself may screen off the ultra-violet light to some extent but generally speaking they have little or no protective value. ACA did not test these.

2. "Sun-screen" Preparations

There are several chemicals which stop ultra-violet rays and any of these can form a basis for a sun-screen preparation when suitably mixed up in lotion, spray or cream form. These substances when spread on the skin in a thin layer do really cut down the ultra-violet radiation reaching the skin in just the same way as sunglasses cut down the ultra-violet reaching the eyes.

These are the preparations which ACA has tested in this report.

3. Chemical Tanners

In 1960 a new type of preparation was put on the market which depends upon the presence of a chemical called DHA or dihydroxyacetone. These preparations tan the skin without the use of the sun at all. They darken the skin by an interesting physiological process which appears to be harmless but only lasts two or three days and is NOT a protection against sunburn as the natural suntan is.

ACA will report on these products in the April issue.

A Little Science about Sun-screens

It is obvious that if we cover up our skin it will not get tanned or burnt. It follows that if we plaster our skin thickly with an effective sun-screen we shall not tan or burn either. The ultra-violet rays we are concerned with are what scientists term short wave length radiations and they fall in a range of 290-315 millimicrons wave-length. It is believed that the shorter (290–305 or thereabouts) rays are the group which cause the worst burning whereas those of the slightly longer range, say 305–315 can cause tanning with rather less burning. The difference is not very great but, it does appear more desirable to cut off most of the first group and let the second group through to the skin progressively as the wavelength gets longer.

The whole process of using sun-screens is very rough and ready since it all depends on how thickly or thinly the preparation is spread on the skin but there is one fact which you must have spotted already and this is that *no preparation of this sort can give you a tan.* All that will

happen is that you will be able to stand more exposure to the sun without burning or tanning so quickly.

There is one other important point and this is that there is no preparation strong enough to prevent completely any burning if you expose yourself enough to the sun. In fact the manufacturer would have a job to sell such a product if it did exist because the aim is to get tanned, as painlessly as possible maybe, but to get tanned just the same.

ACA's Tests

ACA's buyers bought every sun-screen preparation which could be found in large stores, chemists shops or sports stores in the Sydney Metropolitan Area and some thirty-two preparations are included in this survey.

All these preparations were given to ACA's scientists to measure their ultra-violet screening power.

The scientists used an apparatus known as a spectrophotometer which produces ultra-violet radiations and can be tuned like your radio to the individual wavelengths. They used each of the sun-screen preparations in such a way that they were equivalent to a layer 0.00016″ thick because this let through sufficient ultra-violet rays to be accurately measured. In practice the amount you put on your skin would probably form a thicker layer than this. The amount of ultra-violet radiation coming through this layer was measured at five different wavelengths—290, 295, 300, 305 and 310 millimicrons and the average absorbing power of the sun-screen preparation over this range was calculated.

Results

If you now look at the Table you will see first of all the name of the preparation, the maker's name and the price. The preparations are arranged in order of their efficiency in stopping the ultra-violet rays so that those at the top of the list are more efficient in that respect than those lower down.

In the next two columns are given the price and the quantity we found in the container. Then comes the calculated price per ounce in pence. Column five gives the relative screening power of the layer of sun-screen in ACA's test. The higher this figure the greater the ultra-violet screening effect. Column six gives an idea of the range of ultra-violet screening so that if we say it is wide we mean that all wavelengths were well absorbed whereas short means that the shorter rays were absorbed best and long means the reverse.

The last column gives the relative value or how much sun-screening power you get for one penny. This value is obtained by dividing the relative screening power of column five by the price per ounce.

Value

This last column—*value*—gives us a clear measure of the best value for money in sun-screening which is what ACA judged the products for. If you want your sun-screens in a pressure pack then obviously you must pay more for them, but we shall say more about this later. Starting at the top of this column and following it down we find that TAN-FAST (oil) is the best value.

As we go down the list the efficiency of the preparations as sun-screens becomes less and as ACA's scientists consider that those which have a relative screening power of less than 30, not to be very efficient the last six products are not likely to be effective unless applied very thickly.

A Few General Points

ACA has not taken into account the cosmetic elegance of the various preparations and it may well be that many people will prefer a cream which rubs into the skin or a spirit type of lotion which evaporates and leaves the skin dry. The oils tend to remain on the skin so that sand will stick to it and the hands are slippery and moist. The best buy in the lotion type of preparation is TAN-FAST (lotion) and of the creams SUPER KWIKTAN (cream) is the best buy.

A pressure pack is a very convenient way to apply a sun-screen but unfortunately none of the preparations available was very good although BASK is the best of them by ACA's tests. These packs are usually stated to contain 6 ozs. net but it must be realised that this 6 ozs. comprises about 3 ozs. of the sun-screen with about 3 ozs. of the propellant which simply works the pressure spray.

A note of warning should be sounded about the use of sun-screen preparations by people

with noted allergic disposition. Applying almost any chemicals to the skin can cause dermatitis or itching, in sensitive individuals. Fortunately there are not many among us who suffer in this way but it is possible for some few people to react to these sun-screen preparations. The reaction may be caused by other chemicals in the product than the actual screening material so that it does not follow that a person allergic to one product cannot use another.

Only one maker, Drug Houses of Australia Ltd, carries a warning to this effect on the pack of their preparation—PARASOL. ACA can hardly fail to mention the matter of the names of these products and states once again that none of them can make you tan. Names like TAN-FAST, SUPER KWIKTAN and ULTRA TAN (Bronzing Lotion) are misleading in this respect.

The only thing these screens can do is slow down the tanning and burning so that perhaps you can tan less painfully. You will certainly be able to stay in the sun longer with safety if you use a good sun-screen.

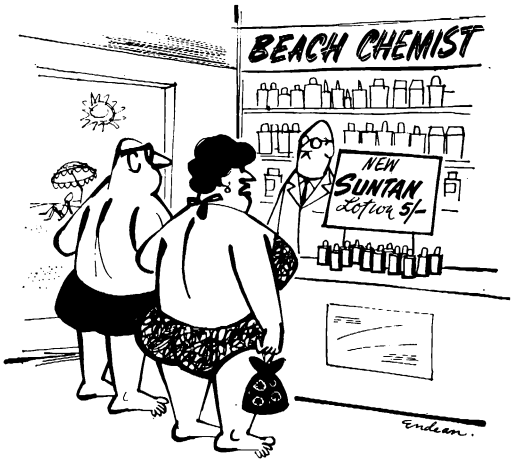
Lots of people use olive oil for tanning on the beach and just for comparison ACA tested this also. You will see that it does have some slight sun-screening property but it is very feeble compared with the modern preparations now available.

ACA recommends the following: BEST BUYS

OILY — TAN-FAST
Johnson & Johnson — 4s. 2d.

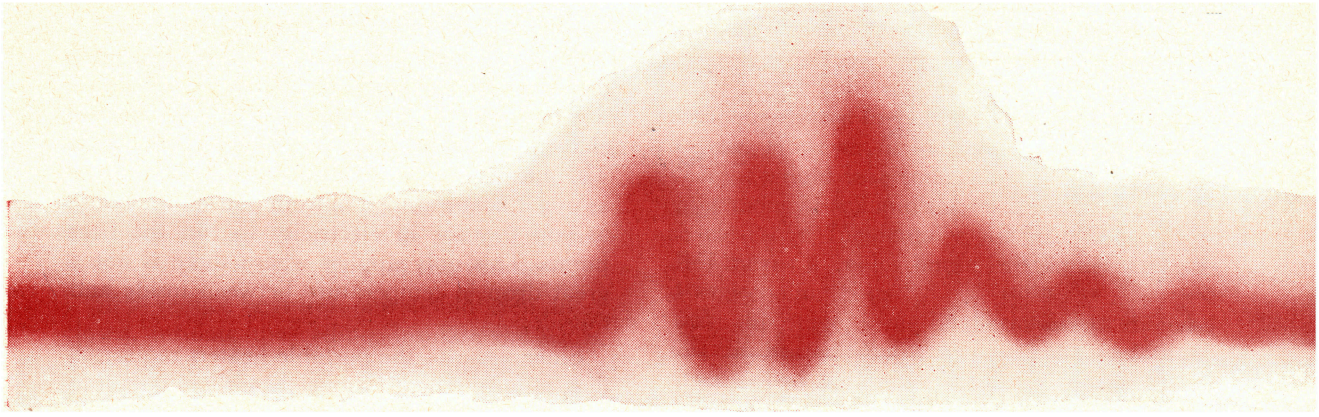
LOTION — TAN-FAST
Johnson & Johnson — 4s. 6d.

CREAM — SUPER KWIKTAN
Nyal — 5s. 3d.



"Are they cheaper by the dozen?"

Brand and Makers Name			Price	Amount	Price in pence per gm or ml	Relative U.V. Stopping Power	Range	Value Index
ULTRA-TAN	Oil	Cyclax	9/6	61 ml	1·9	110	short	2·1
NIVEA SUNFILTA	Cream	Smith & Nephew	3/–	20 gm	1·8	85	short	1·6
BEACH TAN	Cream	Helena Rubinstein	8/11	69 gm	1·5	81	wide	1·9
SUN-SPORT	Cream	Helena Rubinstein	10/6	79 gm	1·6	73	short	1·6
TAN-FAST	Oil	Johnson & Johnson	4/2	86 ml	0·6	72	wide	4·4
SUN BATH	Cream	Revlon	16/6	100 gm	2·0	67	short	1·2
FILTERAY	Cream	World Agencies	4/6	39 gm	1·4	64	short	1·6
SUN MILK (tinted)	Cream	Ayer	11/6	98 gm	1·4	63	short	1·6
TAN-FAST	Lotion	Johnson & Johnson	4/6	55 ml	1·0	63	wide	2·3
SUN MILK (plain)	Cream	Ayer	11/6	96 gm	1·4	60	wide	1·5
PARASOL	Cream	D.H.A.	7/11	56 gm	1·7	59	wide	1·2
ULTRA-TAN (Bronzing Lotion)	Cream	Cyclax	13/6	80 gm	2·0	59	short	1·0
FILTROSOL	Cream	Parke Davis	3/3	42 gm	0·9	58	short	2·2
SUPER KWIKTAN	Cream	Nyal	5/3	79 gm	0·8	55	short	2·4
ARDENA SUNTAN OIL	Oil	Elizabeth Arden	11/6	51 ml	2·7	53	long	0·7
NIVEA SUNNING OIL	Oil	Smith & Nephew	8/–	47 ml	2·0	53	wide	0·9
COLE SUNTAN LOTION	Lotion	Kingsgrove Labs.	3/11	54 ml	0·9	52	short	2·1
SUPER-SUNCREME	Cream	Hamilton's	3/3	43 gm	0·9	42	short	1·6
SUPER KWIKTAN	Oil	Nyal	4/9	111 ml	0·5	40	long	2·7
SKOL (Sun-Screen)	Cream	Scott & Bowne	3/11	51 gm	0·9	39	wide	1·5
SKOL (Sun Lotion)	Lotion	Scott & Bowne	4/9	56 ml	1·0	38	long	1·3
INNOXA TAN	Cream	Innoxa	6/11	56 gm	1·5	37	long	0·9
SPRAY-TAN	Lotion	Paul Duval	3/11	80 ml	0·6	37	wide	2·2
SUNBLISS	Cream	Max Factor	8/6	82 gm	1·2	36	long	1·0
INNOXA TAN (oil)	Oil	Innoxa	9/9	66 ml	1·8	36	wide	0·7
BASK (Pressure Pack)	Lotion	Samuel Taylor	12/6	86 ml	1·7	33	long	0·7
ARDENA SUNPRUF (tinted)	Cream	Elizabeth Arden	9/9	70 gm	1·7	29	long	0·6
ARDENA SUNPRUF (plain)	Cream	Elizabeth Arden	9/9	79 gm	1·5	29	long	0·7
SOL-KREEM	Cream	Irvine Pty. Ltd.	8/6	98 gm	1·0	22	long	0·7
COOLTAN	Cream	Cooltan Labs.	3/11	39 gm	1·2	19	short	0·6
TWEED-TAN (Pressure Pack)	Lotion	Lentheric	12/11	68 ml	2·3	18	wide	0·3
COPPERTAN (Pressure Pack)	Oil	Randel	9/11	86 ml	1·4	15	wide	0·4
OLIVE OIL—For comparison						less than 5		



the cost of keeping WARM in winter

With summer coming to an end, the problem of keeping warm in winter must be anticipated.

A great many devices for heating are available, from a single bar radiator for a small room to a reversecycle air-conditioning plant capable of heating the whole house. In general, heating devices may be divided into two classes — fixed and portable. The first contains those which are fixed to the house or are built as part of it; for example open fires, closed fires, slow combustion fires, almost all air-conditioners, the majority of gas fires and infra-red heaters, some liquified petroleum (L.P.) gas heaters and a few oil or kerosene heaters. The second category contains electric radiators, electric heaters with fans, some infra-red heaters, the majority of kerosene heaters and L.P. gas heaters, some gas heaters, certain types of oil-filled electric heaters and one or two air-conditioners.

One of the main things in which we are interested is the cost of heating the whole or part of a house. This cost depends on three things — the cost of fuel, the efficiency of the device using the fuel and the rate of heat loss from the space being heated.

The Cost of Fuel

To be able to compare fuels we must calculate the cost of getting the same amount of heat from each of them. We will take one kilowatt-hour (KWH) as our unit of heat, irrespective of whether we are concerned with electricity, gas or any other fuel. This is the amount of heat put into a room by a one kilowatt radiator running for one hour. Since the cost of 1 KWH of electricity or a gallon of kerosene varies from place to place, a simple figure for the cost of fuel cannot be given. However, a little arithmetic will enable you to compare the fuels if you know their prices in your district. The first table gives you the formulae for making the comparison.

TABLE 1

Fuel	Calculation	Cost/KWH
Electricity:	Cost (pence per KWH)	=
Kerosene:	Cost (pence per gal) × 0.022	=
Town Gas:	Cost (pence per unit or Cost (pence per therm) × 0.034	=
L.P. Gas:	Cost (pence per lb) × 0.157	=
Coal:	Cost (shillings per ton) × 0.0014	=
Coke:	Cost (shillings per ton) × 0.0015	=
Any other fuel:	Cost (pence per lb) ÷Calorific value (KWH/lb)	=

Note.—This table does not allow for the efficiency of the devices using the fuels.

The next table shows the formulae in Table 1 as applied to Sydney. Calculations for other capital cities will be given in the next issue.

In Sydney, if your consumption is typical and you use 1,000 KWH of heat over the winter quarter, the costs are:

TABLE 2

Fuel	Calculation	Cost/KWH
*Electricity:	$6.58 \times \frac{30}{1000} + 4.48 \times \frac{70}{1000} + 1.86 \times \frac{900}{1000}$	= 2.20d
Kerosene:	36×0.022	= 0.79d
†Town Gas:	$\frac{429}{1000} + \frac{935}{1000}$	= 1.36d
°L.P. Gas:	21×0.157	= 3.29d
Coal:	84×0.0014	= 0.12d
Coke:	170×0.0015	= 0.25d

*Based on 6.58d per KWH for the first 30 KWH, 4.48d per KWH for the next 70 KWH, and 1.86d for the balance (900 KWH), assuming the use of an electric kitchen stove.

†Based on a fixed charge of £1/15/9 and gas at 0.935d per unit, assuming the use of a gas hot water system.

°Based on 20-lb bottles at 1/9 per lb.

In the case of electricity and town gas, the more you use, the less the cost per KWH, but if you use 2,000 KWH over the winter quarter, the costs are only reduced to 2.03d/KWH and 1.15d/KWH respectively.

Efficiency

The efficiency of the device using the fuel is the percentage of the heat from the fuel which goes into the space being heated. For example if 1 lb. of L.P. gas is burned in a fixed radiator with a flue, the heat produced is 6.4 KWH, but if 3.6 KWH goes up the flue, only 2.8 KWH gets into the room and the efficiency of the radiator is $\frac{2.8}{6.4} \times 100 = 44\%$.

The efficiency of a fixed heater depends on the chimney or flue used with it, but typical efficiencies are:

TABLE 3

Heater	Efficiency
Open Fire ..	10%–15%
Closed Fire ..	25%–40%
Slow Combustion Fire	30%–40%
Gas Fire with Flue	45%–50%
L.P. Gas Fire with Flue	45%–50%
Infra-Red Heater ..	100%
Air-conditioner ..	95%–400%

In closed fires some of the heat from the back of the fire is fed into the room.

Air-conditioners with electric heating elements are nearly 100% efficient; those operating on reverse-cycle (that is, with no electric element) can be from 200%-400% efficient. This means that you can get up to three times as much heat pumped in from outside the house as you pay for in electricity to run the heat pump. This only applies where there is not a great drop in temperature between inside and outside.

Since none of the portable heaters requires a flue, all of the heat produced by them goes into the room and the efficiency is very nearly 100%.

Overall Fuel Cost

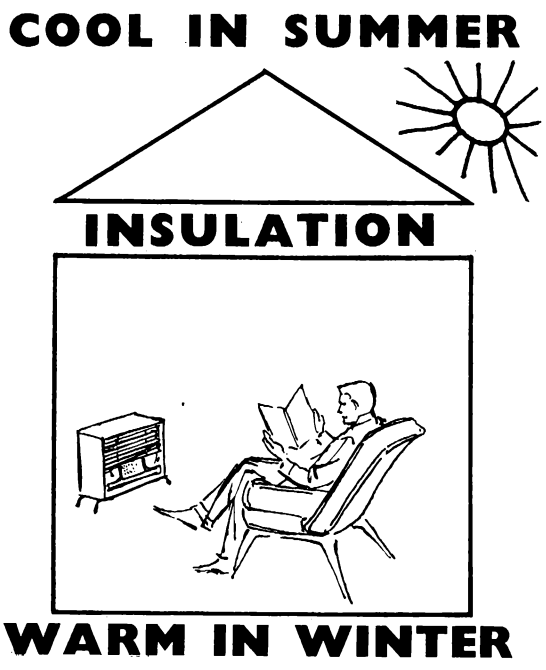
So if you are using a portable heater the cost of fuel calculated from Table 1 is your overall fuel cost.

However, if you are using a fixed heater, the overall cost of fuel is obtained as follows—multiply the cost as calculated by the formula in Table 1 by 100 and divide this by the efficiency figure given in Table 3. For example, in Sydney coal burnt in an open fire could cost $0.12 \times 100 \div 15 = 0.8$d per KWH of heat delivered to the room, whereas a reverse-cycle air-conditioner can cost as little as $2.20 \times 100 \div 400 = 0.55$d per KWH of delivered heat.

Heat Loss

We must now consider the heat lost from the room or house. The main avenues by which heat escapes are air flow through open doorways, windows, ventilators and so on and conduction through the ceiling, walls and floor. In a normal room with the doors closed the main heat loss is through the ceiling. The next most serious loss, particularly in modern houses, is usually through the glass in the windows.

So to reduce heat loss, one should keep doors closed, insulate the ceiling, insulate the walls, cover the windows with awnings that let in the winter's sun and with curtains at night, and carpet the floor. The effect of each of these depends on the construction of the particular house, its aspect, the presence of trees, and so on. However, for a house with an uninsulated hip or gable roof and a flat ceiling, thoroughly insulating the ceiling would be expected to reduce the heat loss by 25%–30%. Let us consider the desirability of this on a cost basis. If fuel costs £30 per year, insulation of the ceiling should bring about a saving of £8 to £10 per year. If the cost of installing the insulation is, say, £60, it would take 6 to 8 years to get your money back and you would subsequently be in pocket by some £8 to £10 a year. However, if fuel costs are only £10 a year, it would take some 29 to 30 years to get your money back and the decision is not nearly so clear cut. Incidentally, an insulated ceiling also means a cooler house in summer and reduced cooling costs.



At this stage, some of the causes of discomfort in heated rooms are worth mentioning. Currents of air in a room should not move faster than 40 ft/min., particularly near the floor, or there will be complaints of "draughts". It is not uncommon, for example, to find a draught greater than 100 ft/min. on the floor near an open fire. The difference in temperature between foot level and head level should not exceed 5°F; otherwise, if the head temperature is pleasant the feet are cold, or if the feet are warm the head feels stuffy. Again, if the air temperature is reasonable but too much radiation falls on the body, particularly the head, there will be complaints of feeling stuffy. Stuffiness will also be experienced if the level of carbon dioxide in the room exceeds about 2%. For this reason room ventilators must never be blocked off, even though they represent a considerable heat loss.

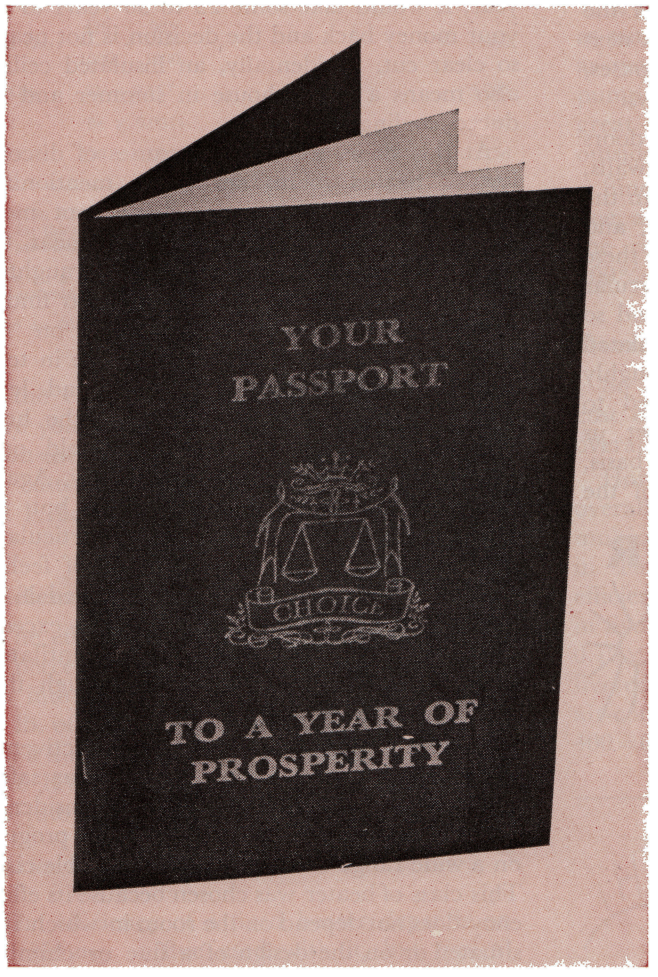
Various models of heaters vary in effectiveness and there are other factors, too, such as safety and ease of handling, which must be considered. At the moment ACA has tests in progress on a wide range of heaters in the portable class. This class of heater was chosen because its efficiency does not depend on the room in which it is situated or on the design of a flue or chimney so that it is reasonably amenable to test.

Because of the popularity and low operating cost of kerosene heaters ACA feels that these should be tested first. It is intended to present the results in the next issue of *Choice*. Further tests, on gas and electrical heaters, will be presented subsequently.

INDEX TO "CHOICE"

A cumulative index to Volumes I and II was published in the December 1961 issue. Copies may be obtained for 5/–, including postage.
In future a yearly index will be published each December.

ACA GIFT MEMBERSHIP CARD



This gift membership card will be available throughout 1962 and is applicable to any occasion. What better wedding present could you give friends or relations than membership of ACA for, say, two years or five years to come? It will only cost you £1 per year, and your friends will be reminded of you every time they receive *Choice*.

Should you want some tangible present to give, why not a complete set of back issues of *Choice*, filed for ready reference in the attractive green and gold binder? We intend to make available soon a special wedding gift box for the binder and back issues. We will be able to supply this for a small extra charge and it will make a most suitable and charming wrapping for display with other wedding presents.

You will find the cost of the various combinations of back issues and binder itemized on the new members application forms included in this issue of *Choice*.

The gift card is equally appropriate for birthdays and other anniversaries. So, when in doubt about a gift, think of ACA and send us your remittance and instructions. We will do the rest, and will ensure that the card and gift parcel are posted at the right time.

This is an excellent way to help ACA and your friends too, who will be certain to appreciate the thought behind your unusual present.

ROOM AIR COOLERS

Refrigerative and Evaporative Types of Cooler

ACA is not in a position yet to test room air coolers, but in view of the many requests from members for information on this subject, ACA feel it is worthwhile to point out to members a few facts regarding the differences between refrigerative coolers and evaporative coolers.

The refrigerative types incorporate a sealed unit type of refrigeration, the air to be cooled passing over a heat exchanger unit. In the process some of the moisture in the air, if excessive, is removed and is accumulated in the unit. Accordingly, as well as lowering the air temperature, this type of cooler also lowers the moisture content in the room.

In evaporative coolers the incoming air is blown over wet filter pads or some similar mechanical arrangement, the evaporation of the water cooling the air. At the same time the moisture content of the air increases, which is one reason why it is not advisable to use this type of cooler in areas of high relative humidity.

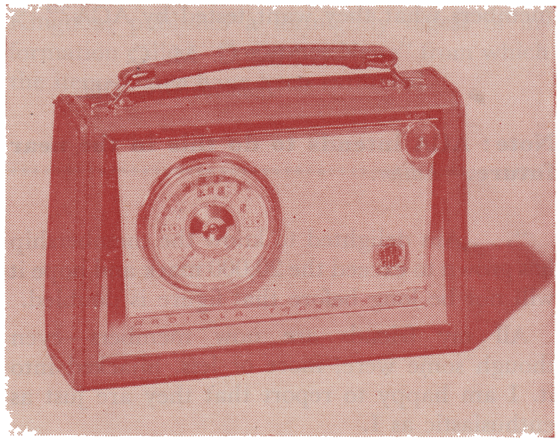
Refrigerative coolers are essential where high temperatures are accompanied by high humidity. On the other hand, the less expensive evaporative cooler may be used in regions i.e. inland Australia, where the high temperatures are usually accompanied by low humidity. In such cases the increased humidity produced by such a unit may in fact have other benefits on the furniture and the occupants of the room, which can both become too desiccated by excessive dry heat.

In 1960–61 some 23,682 refrigerative coolers and 41,277 evaporative coolers were manufactured in Australia, giving an indication of the scale of production. Recently evaporative coolers for use in cars have also been introduced.

The advertising for evaporative coolers does not always clearly indicate the limitations of these types of cooler, and members contemplating the purchase of any air cooler, for use in their homes, cars or caravans, should be fully aware of the points outlined above.

Along the eastern coastal region of Australia, the humidity is generally high and refrigerative type coolers are necessary. In most inland areas and some other parts of Australia, where a low relative humidity prevails, an evaporative cooler is an effective and less expensive method of cooling air.

PORTABLE TRANSISTOR RADIOS



The A.W.A. 136.P which proved to have an internal fault in the electrical adjustments when tested (*Choice* vol. II, No. 5, p. 133) was retested after return from the manufacturer for repair (this was carried out without charge).

In general on retest the set showed an improvement in electrical performance, which however was insufficient to alter the recommendations of the article. Referring to Table II, the results on retest showed an improvement in sensitivity (to "Good") and selectivity (to "Moderate") with no appreciable change in quality of sound ("Fair").

Since this test new sets have appeared on the market, and readers who are interested in the purchase of one of these models should refer to the section on "Some General Advice" at the end of the article as a guide to selecting a good portable transistor radio.

Letters to the Editor

". . . I am disappointed at the expensive luxury goods you are buying and testing at this early point in ACA's existence—surely it is better to test everyday items for the first few years and later some of the luxury goods. It will be years before we can afford pop-up toasters, slide projectors, picnic cooling baskets, coffee pots, etc.

What about lawn mowers, household paints of all types, linos, blankets, household linen, common tools, all the new detergents and household cleaners; what about silicon added to paints, floor polishes, etc., plastics, suitcases—to suggest a few.

Would this be the time to enquire again from members what they want tested by ACA?"

MRS C. M. C.
Indooroopilly, Qld.

Note: ACA intends to do this in the near future.—*Editor.*

". . . Am delighted to know the membership has grown to exceed the 20,000 mark and hope it will not be long before that figure is doubled.

All my friends are now members—even though some were, more or less, hijacked into it. I am happy to report that they are just as enthusiastic as I.

There are golfing bores, gardening bores, fishing bores and many others—I am a *Choice* bore and make no apologies for same."

MRS E. L.
Glen Waverley, Vic.

CONSUMER NEWS FROM OVERSEAS

1. The second Conference of the International Office of Consumers Unions (IOCU) will take place in Brussels at the end of March 1962. The general theme of the Conference is: "The Consumer and the World of Tomorrow". The founder associations are CONSUMERS UNION OF U.S. INC., with a membership of 900,000; CONSUMERS' ASSOCIATION LTD., United Kingdom, with 300,000 members; AUSTRALASIAN CONSUMERS' ASSOCIATION with over 20,000 members; NEDERLANDSE CONSUMENTEN BOND, with 20,000 members; ASSOCIATION DES CONSOMMATEURS, Belgium, with several thousand members (reformed from the Union Belge des Consommateurs).

In addition to the foundation members there are twelve members of the Clearing House Committee and many subscribers to the IOCU Bulletin who will also participate in the Conference.

ACA hopes to have a representative at the Conference.

2. The Conservative Political Centre (in England) has published a report on consumer protection entitled "Choice". The name is purely a matter of choice and has nothing to do with our journal *Choice*.

The British Labour Party have also produced a pamphlet "Fair Deal for the Shopper". It is significant that both these major political parties are becoming aware of consumer interests—which is largely attributable to the activities of the Consumers' Association.

3. In connection with the quality of fish (fish consumption in the U.K. amounts to £Stg.155m. per year) three scientifically trained men went to work to taste, smell, feel and look at fish and award points on each count. Fish with insufficient points were classified as fit only for certain kinds of processing.

4. Sausages were the subject of a parliamentary question in Britain. The Minister said it was extremely difficult to lay down standards which are enforceable: there being many good sausages on the market, *why should anyone want to buy bad sausages a second time?*

5. For a short time in the U.S.A., ham was officially designated as a food that might be diluted with water. After a series of public hearings, the order was withdrawn and former standards have been reinstated.

6. The Food and Drug Administration in the U.S.A. has seized 3,000lb. of honey from a "health food lecturer" alleged to have made false claims that honey is a cure for "premature death".

7. Drugs in Cosmetics. In a speech to the Society of Cosmetic Chemists, the Chairman of

the Committee on Cosmetics of the American Medical Association opposed the incorporation of chemically and pharmaceutically active drugs in cosmetics, for the following main reasons:

(*a*) Since they are sold across the counter, there is no limit to the absolute dose;

(*b*) The permissible dose with, for example, hormone creams, varies greatly, and a cosmetic preparation containing so little of an active ingredient as to be absolutely safe will probably have no biological effect;

(*c*) With the exception of antibiotics used in deodorants, no one has ever proved that any kind of drug such as vitamins, hormones, or antibiotics, when incorporated in cosmetics, improves the appearance of non-diseased skin.

(*d*) Improvement of diseased skin is a matter for dermatologists, because a thorough knowledge of the disease and drugs is necessary.

("*Journal of American Medical Association*", *October* 7, 1961)

8. Israel Consumers' Association has obtained Counsel's opinion from a prominent lawyer and University Professor on its right to publish results of comparative tests together with the manufacturers' names. The conclusions were that there could be no objection if the tests are carried out in good faith to the best of the organization's ability, at institutions of high standard and objectivity and are published without malice and with no other purpose than to protect the consumers' rights and interests.

9. CONSUMERS' ASSOCIATION LTD. of the United Kingdom publishes a fortnightly digest of information called "Consumer News" from which the items above have been extracted.

DEODORANTS AND ANTIPERSPIRANTS

Recent research indicates that body odors are formed mainly by the action of bacteria on secretions from the glands of the skin (*Consumer Reports*, *July*, 1959). Bacteria are present on everyone's skin and are most active in warm, moist surroundings. The problem largely concerns the apocrine sweat glands concentrated in the underarm areas, around the nipples, and in the genital area. The normal functioning of these glands is exaggerated by emotional stress. Unlike the eccrine sweat glands, these glands do not control body temperature; their activity is not increased by warmth; and they produce perspiration rich in organic matter for bacterial action. There are two obvious avenues to the prevention of body odor; they are to impede bacterial action, and to reduce the secretion of perspiration. Deodorants are intended to accomplish the former; antiperspirants may do both. You can tell which you are buying by examining the label. Antiperspirants affect a body function (*sweating*) and are therefore regarded as *drugs* under the Federal Food, Drug, and Cosmetic Act; their active ingredients must be listed. Deodorants are considered *cosmetics* under Federal law and their ingredients may or may not be listed. Thus, if a list of ingredients is not shown, a body-odor preventive may be assumed to be a simple deodorant. A product which makes no claim to controlling perspiration should likewise be considered a simple deodorant unless the listing includes an antiperspirant substance (see next page).

Deodorant Soaps and Deodorants

Regular bathing often is an effective means of controlling both body odor and bacterial growth on the skin. Ordinary toilet soap with water reduces odor by washing away bacteria and glandular secretions. In recent years, antiseptics which reduce the rate of growth of bacteria (hexachlorophene, trichlorocarbanilide, and bithionol) have been added to a number of brands of soap. Such soaps may be somewhat more effective than ordinary types in diminishing body odor, but you probably will get longer-lasting protection against bacteria in the underarm area with a deodorant containing an antiseptic (often hexachlorophene), because more of the deodorant chemical remains on the skin. The simple application of a deodorant, however, cannot remove bacteria, so it should follow adequate bathing. It has not been established that chlorophyllins, widely promoted a few years ago as the answer to all odor problems, have any regular or lasting effect on either body or mouth odor.

Antiperspirants

Many antiperspirants contain some type of aluminium salt. Like the antiseptics used in deodorants, these salts retard bacterial multiplication. In addition, they can reduce the amount of sweat that reaches the skin surface. How they do this is not definitely known, and their effectiveness seems to vary from person to person and, from time to time, in the same person. Because the effectiveness of antiperspirants is so variable, it is wise to buy the smallest available container of a new brand until you know how it works for you.

A number of years ago, the type of aluminium salts used in antiperspirants was sufficiently acidic to irritate the skin of the armpit in some cases and to stain or weaken clothing fabrics. Present-day products seldom have these effects, although a momentary skin irritation may occur if the material is applied soon after shaving. An allergic dermatitis from aluminium salts also is exceedingly rare. Anyone who has significant irritation should avoid the preparation that seems to cause it. In switching brands, choose one with a "different active ingredient". A product with the simplest formula may be least likely to cause reactions.

Some persons find profuse perspiration of the palms and soles more troublesome than underarm perspiration. The commonly used underarm antiperspirants are relatively ineffective for this problem, and no entirely satisfactory solution is known for it. Sweating of the hands and feet, and at times of the armpits, is related to emotional stress. People whose feet perspire profusely should, whenever possible, wear sandals or open mesh shoes, and cotton, rather than nylon or silk, stockings. Liberal dusting with plain talc or with powders containing fatty acids (such as undecylenic acid) will help absorb sweat and discourage fungi. Lamb's wool or cigarette papers tucked between the toes will keep them apart and help evaporation of perspiration.

A persistent skin disturbance known as a granuloma—a tiny, hard, painless lump in the skin—has developed in the armpits of a number of users of antiperspirants containing a zirconium salt. Though it has not been proved conclusively that the zirconium has been responsible, it is best, in the view of CU's medical consultants, not to use antiperspirants containing zirconium salts.

(*This article is reprinted from "Consumer Reports", U.S.A., July*, 1959)

BINDER FOR "CHOICE"

Members are reminded that there is an attractive and durable binder to hold twelve copies of CHOICE, which we can supply for 17/6, including postage.

Fill in the appropriate form on page 29 and send it with your remittance to ACA, 3 Randle Street, Sydney.

ACA MEMBERS 1962 RENEWAL FORM and/or ORDER FOR BINDER

To: Australasian Consumers' Association Ltd, 3 Randle Street, Sydney

Please renew my membership of **ACA** for 1962

	£	s.	d.
I attach my subscription for 1962	1	0	0
Car Test Supplements from *Which* (Quarterly)		15	0
Please supply a Binder for **CHOICE**		17	6

Kindly cross out items not required.

Name (*block letters, please*).....

Address .....

Town or Suburb.....State.....

Occupation or Husband's Occupation (For statistical purposes only.).....

Note: If you have changed your address during the past year, please fill in your old address on the back of this form, so that we can correct our records.

FOR BIRTHDAYS, ENGAGEMENTS, WEDDINGS AND OTHER OCCASIONS

GIFT MEMBERSHIP (as detailed below) for:

Name (*block letters, please*).....

Address .....

Town or Suburb.....State.....

Please cross out items that do not apply

	£	s.	d.
1962 Membership and Gift Card	1	0	0
Car Test Supplements from *Which* (Quarterly)		15	0
And all 1961 issues of **CHOICE**	1	0	0
Also four 1960 issues of **CHOICE**	1	0	0
Binder for **CHOICE**		17	6

Please fill in your own name and address on back of this form.

ACA NEW MEMBER FORM

To: Australasian Consumers' Association Ltd, 3 Randle Street, Sydney

I would like to join ACA and receive **CHOICE** and ohter publications of the Association by post, as detailed below.

	£	s.	d.
Annual subscription for 1962 at	1	0	0
Car Test Supplements from *Which* (Quarterly)		15	0
Five back issues of **CHOICE** for 1961 at	1	5	0
Four back issues of **CHOICE** for 1960 at	1	0	0
Binder for **CHOICE** at		17	6

Kindly cross out items that do not apply. Herewith remittance for _____

Name (*block letters, please*).....

Address .....

Town or Suburb.....State.....

Occupation or Husband's Occupation (For statistical purposes only.).....

MEMBERS! TEAR THIS FORM OUT AND KEEP IT WITH YOU

CAR TEST SUPPLEMENTS

For members who have already paid the subscription for 1962

To: Australasian Consumers' Association Ltd, 3 Randle Street, Sydney.

My Subscription for 1962 has already been paid. I wish to order the four quarterly CAR TEST SUPPLEMENTS, reprinted from *WHICH*. I enclose a remittance for 15/–.

Name (*block letters, please*).....

Address .....

Town or Suburb.....State.....

RENEWALS

My previous address was:

Address

Town or Suburb.....State.....

YOUR CONTINUED SUPPORT WILL BUILD ACA INTO A POWERFUL FORCE FOR THE GOOD OF AUSTRALIA AND BRING ADDED BENEFITS FOR EACH INDIVIDUAL MEMBER

ACA GIFT MEMBERSHIP

(*See back cover of this issue*)

To: ACA, 3 Randle Street, Sydney
I attach a remittance for £.....
Please arrange Gift Membership for 1962 and/or supply back issues of **CHOICE** and Binders for my friends on the front of this slip.

My own name and address are:
Name (*block letters, please*).....
Address .....
Town or Suburb.....State.....

NEW MEMBERS

About the Australasian Consumers' Association

ACA is a wholly independent, non-political, non-profit-making organization formed in 1959. It buys goods from retail shops, just like any other consumer, and tests them for quality and value. The results are given in ACA's magazine, **CHOICE**, which is available only to members. There is no advertising in **CHOICE** and there can be no connection between ACA and any commercial interests.
Membership is by calendar year (i.e. from January to December). Those joining during the year receive back numbers of **CHOICE** for the current year. Previous issues are also available.

ACA IS YOUR ASSOCIATION TO HELP YOU GET VALUE FOR YOUR MONEY.
THE MORE MEMBERS THERE ARE, THE MORE TESTING CAN BE CARRIED OUT.

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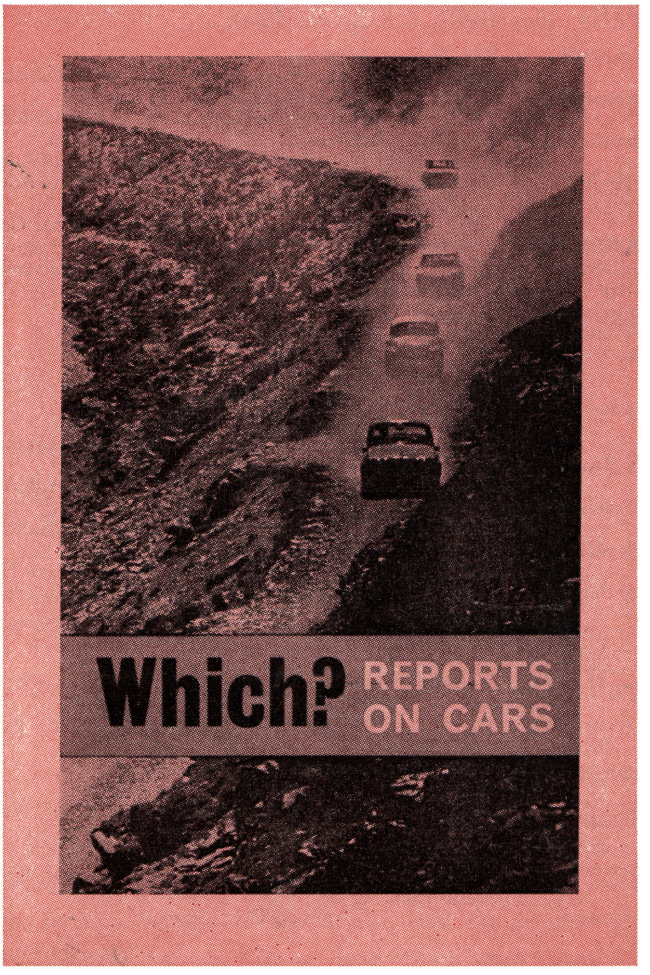

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